REMARKS

Claims 1-20 remain pending in the above application. Claims 1, 10 and 13 have been amended.

The approval of the drawings changes are noted and appreciated. Formal drawings are enclosed.

Turning now to the section 102 rejection, applicant respectfully submits that claims 1, 11, 12 and 13 are not anticipated or rendered obvious over Hartmann et al (US 5,975,940). Each of these claims require that the pressure spring is directly mounted to the housing. This claimed feature is not taught or suggested in Hartmann.

In Hartmann '940, a leaf spring 12 is mounted to a conductive core piece which is formed as a corner angle having two legs 10 and 11. The conductive core piece has a series of slot-shaped oblong openings 13 defined in one of the legs 10. A separate portion or loop part 16 of the leaf spring 12 is received in each opening 13 and protrudes from one side of the leg 10. The spring 12 has curved ends 14 and 18 which engage the opening 13 and secure the spring 12 on the opposite side of the leg 10. Hartmann's spring 12 is clearly mounted to the conductive core piece, and even more specifically, mounted to the leg 10 of the conductive core piece, which is contrary to applicant's claims.

It is important to emphasize that applicant's disclosure expressly teaches away from the construction disclosed in Hartmann, where the spring is mounted to the conductive core piece. Hartmann's connector is precisely what applicant identifies in the specification on page 2, paragraph 0005. Hartmann's spring is required to be mounted or otherwise connected to the conductive core piece outside of the housing prior to placement of both the spring and conductive core piece into the housing. (Col. 2, line 63 to Col. 3, line 5). Only the conductive core piece is

mounted to the housing. The conductive core piece is mounted between the walls 21 and 23 of the housing which have corresponding edge contours 22, 24 and 25 that are shaped to secure one or both sides of the legs 10 and 11 of the conductive core piece to the housing. (Col. 3, lines 14-34). No mounting whatsoever is provided for the spring 12 to the housing. For this reason, it is respectfully submitted that Hartmann does not teach or suggest applicant's claimed invention.

Similarly, claim 13 is not anticipated nor rendered obvious over Tozuka (US 5,454,730). Tozuka's connector also fails to teach or suggest a pressure spring which is directly mounted to the housing in the enclosure. In Tozuka, a leaf-like spring member 22 is mounted on and held by a conductive plate 21 prior to insertion into the housing. (Col. 5, lines 12-17). Even after the spring member 22 is inserted into the housing, the spring member 22 remains engaged and held by the conductive plate 21. (Col. 56, lines 8-18). So it is further respectfully believed that the claims are not anticipated nor rendered obvious by Tozuka.

Relative to the section 103 rejections of Claims 11-12, applicants have stated above that Hartmann's connector teaches away from applicant's claimed spring. It is further respectfully submitted that it would not be obvious to combine Hartmann with either Beege et al (US 6,280,233) or Wang (US 6,093,052) to supply the teaching or suggestion which Hartmann clearly lacks.

In Beege, a spring 3 pivots within the housing to allow the spring to be manipulated and moved upon the insertion of a tool 14 into the housing. In Figs. 1A-1C, the spring 3 pivots relative to a distal end of one leg 9 of the spring. In Figs. 2A-2B, the spring 3 pivots relative to a fulcrum point 21. The pivotal engagement of the spring 3 allows removal of the electrical conductor 4 from the spring. There is absolutely no teaching or suggestion in either reference that Beege's spring should be incorporated into Hartmann's connector because

Hartmann does not teach or suggest removal of the conductors. Thus, there is no suggestion to combine Beege and Hartmann to achieve the claimed invention without applicant's own disclosure.

Another important reason which discourages any combination of Hartmann and Beege is that Beege's spring 3 in Figs. 2A and 2B clearly provides the electrical connection between the bare conductor 4 and the electrical contact 6. Beege's spring must be conductive. In Hartmann the spring 12 merely provides the biasing force to move an inserted electrical conductor 27 against one leg 11 of the conductive core piece, but the spring itself is not conductive. So the suggestion to put Beege's spring into Hartmann's connector lacks any merit in the absence of applicant's teachings.

Even the hypothetical combination of Beege and Hartmann does not provide the suggestion which Hartmann lacks. In Figs. 1A-1C, Beege's spring is not directly mounted to the housing. A separate, support plate 11 provides some support to the support leg 9 of the spring 3, but even the support plate is not mounted to the spring 3 due the required displacement of the spring away from the support plate. The spring 3 must be supported by the insertion tool 14 when the tool is inserted into the slot 13 to displace the leg 9 and loop junction 10 away from the support plate 11 so as to adequately deform the clamping leg 7 of the spring and allow for removal of the conductor 4. The spring 3 is never mounted to the housing. It is counterintuitive to mount the leg 9 of the spring 3 to the housing because the leg 9 must be displaced relative to the housing for conductor removal. Therefore, even the alleged combination of Beege and Hartmann fails to suggest the claimed invention.

In Figs. 2A-2B, Beege's spring 3 is provided with a pivotal engagement with the housing at the fulcrum point 21. The fulcrum point 21 is the only part of the spring 3 which is

disclosed as engaging the housing. The fulcrum point 21 by itself cannot provide mounting support to the entire spring 3. Fig. 2A shows the leg 9a of the spring 3 supported by the electrical contact 6. Fig. 2B shows the leg 9a supported by the insertion tool 14a during displacement of the leg 9a away from the housing to allow for removal of the conductor 4. Beege's spring in Figs. 2A and 2B cannot be mounted to the housing for the same reason as the spring in Figs. 1A-1C because both springs must be displaced relative to the housing for conductor removal. This is another reason why Beege is not properly combinable with Hartmann to suggest the claimed invention.

Wang is also not properly combinable with Hartmann. Wang's electric wire connector connects two wires 4 and 5 in axial alignment in a single hole 11. The hole 11 extends axially along the length of the insulated cylindrical casing 1. Each electrical conductor 4, 5 is inserted into an opposite port of the axial hole 11. In this way, Wang suggests an in-line or splice connection between two electrical conductors.

Wang's connector is dissimilar to a housing which provides a plurality of entry ports defining axes which are arranged in non-coaxial relation with one another, as recited in the amended claims. Wang's connector defines co-axial entry ports for receiving two and only two aligned electrical conductors. Each port of the hole 11 clearly defines an axis which is co-axial with the axis of the opposing port. Only one electrical conductor 4, 5 is inserted into each opposing port of the hole 11. If more than two electrical conductors are used, Wang explicitly teach that each pair of two electrical conductors are connected in an isolated aligned pair from remaining pairs. Figure 8 shows each pair has a separate metal retaining plate 2 and a separate metal contact plate 3 and is electrically isolated from adjacent pairs by the insulated cylindrical casing 1. (Column 3, lines 37-44). No more than two conductors are ever connected to each

other. Wang's connector is limited to coaxial ports for connecting the two conductors. For these reasons, it would not be logical to combine Wang's spring which is spaced from the conductive contact plate into either Hartmann's or Beege's connector. Claims 11 and 12 are respectfully believed to be allowable.

Moreover, even any alleged combination of Hartmann and Wang would not teach or suggest a spring which is mounted to the housing. Wang's spring or metal retaining plate 2 has a base portion 21 which is mounted straight in an axial groove 10 on the inside of the cylindrical casing 1. Wang's plate 2 has a linear geometry which allows it to be inserted into the axial groove 10. By contrast, Hartmann's spring defines a curved shape, which includes the loop part 16 and curves near each end 14 and 18. The spring's shape is essential to assist the biasing movement of the spring and to mount of the spring to the conductive core piece. Clearly, Hartmann's spring lacks the necessary geometry which would allow it to be mounted in the manner taught by Wang.

Also, Wang's plate 2 is not subjected to the same forces acting on it by the electrical conductors as the spring in Hartmann. In Wang, the conductors are inserted on both ends of the cylindrical casing so the force acting on Wang's plate 2 by one conductor is in part balanced by the force acting on the plate 2 by the oppositely inserted conductor. The same is not true in Hartmann. Hartmann's spring must be mounted to withstand biasing due to insertion of all conductors from one direction, as in a conventional side-by-side conductor insertion orientation. There is a clear imbalance of forces acting on the spring when the conductors are inserted. Hartmann's spring is mounted in such a way to support these forces by being mounted to the conductive core piece. In the absence of applicant's teachings, neither reference suggests

that Wang's plate can be substituted into Hartmann's connector and adequately provide an electrical connection.

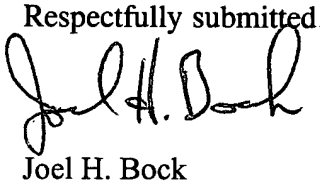
Finally, Claim 11 contains as additional limitation which is not taught or suggested in any alleged combination of the references. Claim 11 recites a projection formed on the housing and a spring including a base plate and a plurality of legs cantilevered from the base plate and further recites that the base plate engages the projection to retain the base plate in a fixed position in the housing. None of the references teach or disclose this limitation.

Hartmann's spring easily lacks any base plate. In the Office action, it is presumed that the element E1 (see the Examiner's Attachment 1) is a projection which retains a base plate 12. The curved shape of Hartmann's spring lacks any such base plate. The reference numeral 12 merely refers to the spring. The comparison falls apart even further because the element E1 does not retain the spring 12 in a fixed position. The spring 12 pivots at its loop part 16 above the element E1 (see Fig. 3) so that the element E1 does not hold anything in a fixed position.

In Beege, the spring 3 is not fixed at all. Instead, the leg portion 9 of the spring 3 moves at a fulcrum point 21 located at one end of the leg portion 9 so that the spring pivots relative to the housing. Beege lacks any projection whatsoever for retaining the spring. Neither does Wang disclose any projection for retaining the base portion 12 of the plate 2 in a fixed position in the housing.

For the above reasons, independent claims 1 and 11-13 and claims 2-10 and 14-20 which depend from these claims directly or indirectly, where applicable, are believed to be distinguishable over the cited references. Reconsideration and allowance are respectfully requested.

Respectfully submitted,



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